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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

GRUNBERG, A

ART UNIT	PAPER NUMBER
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1638

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DATE MAILED: 05/10/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/113,254

Applicant(s)
Madigan et al.

Examiner
Anne Marie Grunberg

Group Art Unit
1638



☒ Responsive to communication(s) filed on Dec 14, 1999

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 70-73 and 76-100 is/are pending in the application.

Of the above, claim(s) 70-73 and 95-100 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 76-94 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☒ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1638.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Originally withdrawn claims 70-73 are still pending. Since they were not elected in response to the original restriction requirement, they should be canceled.

Newly submitted claims 95-100 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 95-100 are drawn to a method of making capsules; Group II as set forth in the last office action, whereas the elected invention was drawn to a seed capsule and methods of use, Group I as set forth in the last office action.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 95-100 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Applicant's election of Group I in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

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Claim Rejections

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 77, 83-86, 90-91 and 93 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 77, 83-86, 90-91 and 93 are indefinite for the terminology "material fines". This term is not defined in the specification and the metes and bounds of the claim can not be readily determined by one skilled in the art. This rejection may be obviated by deletion of "material fines" and substituting the term --soil conditioning materials-- as is described on page 13, lines 16-19 of the specification.

Similarly claims 79 and 86 are vague and indefinite in the use of "industrial byproduct". Changing this term to --sludge-- or --fly ash-- as described on page 13, lines 17-19 of the specification, would obviate this rejection.

In addition, claims 80 and 87 are vague and indefinite in the terminology "byproduct of a paper making process" as a byproduct could be anything, including for example, contaminated water. Insertion of --fiber-containing-- before "byproduct" as described on page 9, line 9 of the specification, would obviate this rejection.

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Claim 84 is vague and indefinite in the terminology "grassy/woody substances". This rejection may be obviated by changing the term to state --sawdust--.

Claim 85 is vague and indefinite in the terminology "lifting and mixing agglomeration operation". The phrase is not defined in the specification and it is not clear as to what exactly constitutes a lifting and mixing agglomeration operation. As a result, the metes and bounds of the claim can not be adequately determined. This rejection may be obviated by deleting "a lifting and mixing" and substituting --an-- in its stead to reflect terminology used on page 28, line 20 of the specification.

Claim 94 is vague and indefinite in the terminology "binder contains lignin". This term is not defined in the specification, nor is there support to clarify what the terminology encompasses. As a result, the metes and bounds of the claim can not be determined by one skilled in the art. It is suggested that Applicant cancel this claim.

3. Claim 93 recites the limitation "said binder" in reference to claim 85. There is insufficient antecedent basis for this limitation in the claim. This rejection may be obviated by amending the claim to delete "claim 85" and change it to read --claim 92--.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to

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make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 77,83-86, 90-91 and 93-94 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification provides no guidance in identifying “material fines”, or a “binder [that] contains lignin”. The specification does not contain guidance as to what a material fine would be, nor is it understood what form of lignin would be contained in what type of binder. In contrast, the claims are broadly drawn to any material fine, and any binder that contains lignin. In addition, these phrases are considered to be new matter since the specification as originally filed does not contain these items. The terms “grassy/woody substances” and “lifting and mixing agglomeration operation” are also considered to be new matter since they are not in the specification as originally filed.

The use of any type of material fine, or a binder which contains lignin is unpredictable due to the environmental impacts associated with certain material fines, and the germination characteristics of the seed and sensitivity of the seed to adhesive compounds, as set forth below.

Nelson teaches in column 2, lines 12-16, for example, that certain flue gas desulfurization wastes are not appropriate for soil amendments, owing to their high solubilities in water.

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Porter et al teach in column 2, lines 21-30, for example, that selection of a suitable adhesive or binder, must take into account the germination characteristics of the seed and the sensitivity of the seed to damage caused by harsh chemicals that might be present in adhesive compounds.

Given the claim breadth, unpredictability, and lack of guidance as discussed above, undue experimentation would have been required by one skilled in the art to determine what type of material fines, and what type of lignin-containing binder could be used. Undue experimentation would also be required to identify appropriate grassy/woody substances and lifting and mixing agglomeration operations.

This rejection may be obviated by amending the claims as suggested in the section dealing with the second paragraph of 35 U.S.C. 112.

5. New claim 77 is rejected under the previously applied 35 U.S.C. 102(b) as being anticipated by Gerber.

Claim 77 is drawn to a combination seed capsule comprising at least one viable seed which acts as a core or pseudo-core of the seed capsule, and seed coatings comprising a growth enhancer and material fines.

Gerber teaches a combination seed capsule comprising at least one viable seed; said seed acting as a core or pseudo-core of said combination seed capsule (column 1, lines 61-63). Gerber

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also teaches seed coatings comprising a growth enhancer and material fines (column 2, line 7; column 2, lines 52-56; column 3, lines 22-41).

This rejection may be obviated by inserting at the end of the claim --; said seed capsule ~~having an inner layer comprising a soil conditioning material selected from the group consisting of municipal or sewage sludge, scrubber sludge, paper mill sludge, sawdust, fly ash, dust and animal waste;~~

~~and said seed capsule having an outer layer comprising a material selected from the group consisting of urea, an inorganic form of a plant nutrient, herbicides, fungicides, and ingredients effective to reduce susceptibility of the seed capsule to deleterious effects of animals;~~
wherein the inner layer is agglomerated onto the seed.--

6. New claims 76-78 and 83 are rejected under the previously applied 35 U.S.C. 102(b) as being anticipated by Roth.

Claims 76-78 and 83 are drawn to a combination seed capsule comprising at least one viable seed which acts as a core or pseudo-core of the seed capsule, and a seed coating comprising dicalcium phosphate. Additionally, the claims are drawn to seed coatings comprising a growth enhancer and material fines such as municipal sewage.

Roth teaches a combination seed capsule comprising at least one viable seed; said seed acting as a core or pseudo-core of said combination seed capsule (column 4, lines 31-50). Roth

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also teaches a coating comprising "the phosphates," which although it does not specifically state dicalcium phosphate, certainly includes dicalcium phosphate (column 3, line 10). Additionally Roth teaches coatings comprising a growth enhancer and material fines (column 3, lines 5-16). Roth also teaches material fines comprised of municipal sewage (column 4, lines 46-50).

This rejection may be obviated by inserting at the end of the claim --; said seed capsule having an inner layer comprising a soil conditioning material selected from the group consisting of municipal or sewage sludge, scrubber sludge, paper mill sludge, sawdust, fly ash, dust and animal waste;

and said seed capsule having an outer layer comprising a material selected from the group consisting of urea, an inorganic form of a plant nutrient, herbicides, fungicides, and ingredients effective to reduce susceptibility of the seed capsule to deleterious effects of animals;

wherein the inner layer is agglomerated onto the seed.--

7. New claims 77, 79-81 and 84 are rejected under the previously applied 35 U.S.C. 102(b) as being anticipated by Nilsson.

Claims 77, 79-81 and 84 are drawn to a combination seed capsule comprising at least one viable seed which acts as a core or pseudo-core of the seed capsule, and seed coatings comprising a growth enhancer and material fines. Additionally, the claims are drawn to material fines such as industrial byproducts, byproducts of a paper making process, paper sludge, and grassy/woody substances.

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Nilsson teaches a combination seed capsule comprising at least one viable seed; said seed acting as a core or pseudo-core of said combination seed capsule (column 1, lines 38-49).

Nilsson also teaches seed coatings comprising a growth enhancer and material fines (column 1, lines 60-68; column 4, line 23). Additionally Nilsson teaches material fines comprised of industrial byproducts (column 1, line 65). Nilsson also teaches material fines which are byproducts of a paper making process (column 1, line 65), such as paper sludge (column 1, line 65). Nilsson also teaches material fines comprised of grassy/woody substances (column 1, lines 65).

This rejection may be obviated by inserting at the end of the claim --; said seed capsule having an inner layer comprising a soil conditioning material selected from the group consisting of municipal or sewage sludge, scrubber sludge, paper mill sludge, sawdust, fly ash, dust and animal waste;

and said seed capsule having an outer layer comprising a material selected from the group consisting of urea, an inorganic form of a plant nutrient, herbicides, fungicides, and ingredients effective to reduce susceptibility of the seed capsule to deleterious effects of animals;

wherein the inner layer is agglomerated onto the seed.--

8. Claims 77, 79-81, 84-88, and 91-94 are rejected under 35 U.S.C. 102(b) as being anticipated by Loperfido (newly applied).

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Claims 77, 79-81, 84-88, and 91-94 are drawn to a combination seed capsule comprising at least one viable seed which acts as a core or pseudo-core of the seed capsule, and seed coatings comprising a growth enhancer and material fines. Additionally, the claims are drawn to material fines such as industrial byproducts, byproducts of a paper making process, paper sludge, grassy/woody substances. The claims are also drawn to a binder which may include fertilizer and which contains lignin.

Loperfido teaches a combination seed capsule comprising at least one viable seed which acts as a core or pseudo-core of the seed capsule (abstract, for example). The seed coatings comprise a growth enhancer (column 6, lines 37-46) and material fines (column 2, lines 63-66, for example). Loperfido teaches material fines such as cellulose derivatives, which would include byproducts of a paper making process, paper sludge, or grassy/woody substances (column 4, lines 13-14). Byproducts of a paper making process are industrial byproducts since paper making is an industry. The coating is applied by a lifting and mixing agglomeration operation (column 6, lines 65-67; column 7, lines 1-19, for example). Loperfido teaches a binder that is applied to the seed capsule (column 5, lines 26-30, for example). Additionally, Loperfido teaches a fertilizer as part of the material fines (column 6, lines 35-47). Loperfido also teaches a binder that contains lignin (column 5, line 1, for example).

This rejection may be obviated by inserting at the end of the claim --; said seed capsule having an inner layer comprising a soil conditioning material selected from the group consisting

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of municipal or sewage sludge, scrubber sludge, paper mill sludge, sawdust, fly ash, dust and animal waste;

and said seed capsule having an outer layer comprising a material selected from the group consisting of urea, an inorganic form of a plant nutrient, herbicides, fungicides, and ingredients effective to reduce susceptibility of the seed capsule to deleterious effects of animals;

wherein the inner layer is agglomerated onto the seed.--

Additionally, the term "at least" in line 2 of claims 76, 77 and 85, should be deleted.

Applicant may attempt to distinguish the claimed invention by supplying a declaration which sufficiently shows that the seed capsule of the instant invention is distinct from a seed capsule made by the process of Loperfido. No commitment to patentability will be made prior to receipt and review of the declaration.

9. Claims 76-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loperfido in view of Roth, and further in view of Nelson (newly applied).

Claims 76-94 are drawn to a combination seed capsule comprising at least one viable seed which acts as a core or pseudo-core of the seed capsule, and a seed coating comprising dicalcium phosphate. Additionally, the claims are drawn to seed coatings comprising a growth enhancer and material fines such as municipal sewage, an industrial byproduct, paper sludge, fly ash, and grassy/woody substances. The claims are also drawn to the coating being applied by a lifting and mixing agglomeration operation.

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Loperfido has been discussed previously.

Loperfido does not teach a coating or growth enhancer comprising dicalcium phosphate, nor does Loperfido teach material fines comprising fly ash or municipal sewage.

Roth teaches a coating comprising "the phosphates," which although it does not specifically state dicalcium phosphate, certainly includes dicalcium phosphate (column 3, line 10). Roth also teaches material fines comprised of municipal sewage (column 4, lines 46-50).

Nelson teaches environmentally beneficial soil amendments such as fly ash (column 3, lines 60-63).

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to utilize the combination seed capsules as taught by Loperfido, and to modify the capsules to include the fertilizer dicalcium phosphate, given the advantages of including fertilizers into the seed capsule as taught by Loperfido. It would also have been obvious to use material fines comprising municipal sewage or industrial byproducts such as fly ash, given the benefits of a low-cost carrier additive derived from sewage sludge as described by Roth (column 2, lines 1-45), and given the benefits of growth enhancing industrial byproducts such as fly ash as described by Nelson (column 3, lines 45-57).

This rejection may be obviated by inserting at the end of the claim --; said seed capsule having an inner layer comprising a soil conditioning material selected from the group consisting of municipal or sewage sludge, scrubber sludge, paper mill sludge, sawdust, fly ash, dust and animal waste;

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and said seed capsule having an outer layer comprising a material selected from the group consisting of urea, an inorganic form of a plant nutrient, herbicides, fungicides, and ingredients effective to reduce susceptibility of the seed capsule to deleterious effects of animals;

wherein the inner layer is agglomerated onto the seed.--

Additionally, the term "at least" in line 2 of claims 76, 77 and 85, should be deleted.

Applicant may attempt to distinguish the claimed invention by supplying a declaration which sufficiently shows that the seed capsule of the instant invention is distinct from a seed capsule made by the process of Loperfido. No commitment to patentability will be made prior to receipt and review of the declaration.

Applicant's arguments filed 12/14/1999 have been fully considered but they are not persuasive.

The references supplied by the Applicant teach different coating and agglomeration techniques. The terminology in the art appears to be used interchangeably for different techniques. For example, on page 21 of Perry's Chemical Engineers' Handbook, liquid methods are characterized by spray or fluid bed agglomeration, whereas Hovmand appears to describe the same process on page 11, as a coating process. As a result, the previously applied art of Gerber, Roth and Nelson could be characterized as a coating or an agglomeration procedure.

No claim is allowed.

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CLOSING REMARKS

Any inquiry concerning this or earlier communications from the examiner should be directed to Anne Marie Grünberg whose telephone number is (703) 305-0805. The examiner can normally be reached on Monday through Thursday from 7:30 to 5:00, and on alternate Fridays from 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith, can be reached on (703) 308-3909. The fax phone number for this Group is (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Anne Marie Grünberg

May 8, 2000

DAVID T. FOX
PRIMARY EXAMINER
GROUP ~~130~~ 1638

